

**Notice of Allowability**

Application No.

10/700,013

Examiner

JOHN PAK

Applicant(s)

COTTRELL ET AL.

Art Unit

1616

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-30 and 33-36 [renumbered as 1-34].
3. ☐ The drawings filed on \_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).


\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 3/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

  
JOHN PAK  
PRIMARY EXAMINER  
GROUP 1/30

Claims 1-37 are pending in this application.

**RESTRICTION REQUIREMENT & APPLICANT'S ELECTION WITHOUT TRAVERSE**

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-30 and 32-37, drawn to an insecticidal composition and method wherein an insecticidal (tetrahydro-3-furanyl) methylamine derivative such as dinotefuran is combined with an insect growth regulator such as pyriproxyfen, classified in class 514, subclasses 345, 461, 471-473, 546, 557-558, 560, 642-643, 772, 785, 788, 875, 970, 971.
- II. Claim 31, drawn to a method of preparing an insecticide, wherein any insecticide is dissolved in a composition comprising oleyldimethyl ammonium chloride, classified in multiple subclasses in classes 424 and 514, depending on the chemical structure of the active ingredient insecticide.

The two inventions are independent and distinct, because they are each directed to separate inventive efforts. Group I is directed to the specific combination of an insecticidal (tetrahydro-3-furanyl) methylamine derivative such as dinotefuran and an insect growth regulator such as pyriproxyfen, whereas Group II is directed to any and all insecticides being dissolved in a specific quaternary ammonium compound.

To search and examine more than one invention group would place an undue burden on the Examiner. The inventions are separately classified in the U.S.

classification system. Further, the search concepts are so divergent that the literature search for one invention would be far from being a complete search for the other invention. Under the facts of this application, the search for just one invention group is already of sufficient burden due to the scope of active agents encompassed, and to search and examine more than one invention group would place an undue burden on the Examiner.

Therefore, for the reasons of distinctness and undue burden, the restriction requirement as set forth above is deemed to be proper.

During a telephone conversation with Mr. Siegal on 7/18/2005 an election was made **without** traverse to prosecute the invention of Group I, claims 1-30 and 32-37. Claim 31 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

#### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Siegal on July 21, 2005.

**CANCEL** claim 31-32 and 37.

Claim 1, line 1: delete "insecticidably" and insert --- insecticidally --- .

Claims 9-20 (**each instance**): after "%" insert --- by weight --- .

Claim 25, line 3: delete "insecticidably" and insert --- insecticidally --- .

**Rewrite** claim 33 as follows.

Claim 33 (Currently amended). An insecticidal composition comprising an insecticidally effective amount of dinotefuran and an insect growth regulating amount of pyriproxyfen, wherein the composition further comprises a solution comprising a quaternary ammonium salt, ethyl lactate and water.

The following is an examiner's statement of reasons for allowance:

Present claims are directed to an insecticidal composition and method wherein an insecticidal (tetrahydro-3-furanyl) methylamine derivative such as dinotefuran is combined with an insect growth regulator such as pyriproxyfen or methoprene, wherein water, ethyl lactate and a quaternary ammonium salt are additional composition ingredients.

Claim Interpretation

(1) Independent claim 1 recites "insecticidal (tetrahydro-3-furanyl) methylamine derivative." Claim 2 specifies the derivative as dinotefuran, a well known insecticide. In specification paragraphs 0017 to 0045, applicant discloses numerous insecticidal

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(tetrahydro-3-furanyl) methylamine derivatives that are suitable for the instant inventions. It is noted for the record that the same exact terminology is recited in claim 1 of U.S. Patent No. 6,588,374, and similar language is recited in claim 1 of U.S. Patent No. 5,434,181. From such extensive specification disclosure and prior art knowledge, the skilled person in the art would have been able to determine the metes and bounds of the claim terminology, "insecticidal (tetrahydro-3-furanyl) methylamine derivative."

(2) The quaternary ammonium salt, "oleyldimethylammonium chloride" (e.g. claim 5) does not specify the fourth bond to the nitrogen. Therefore, this substance is readable on dioleyldimethylammonium chloride, as well as quaternary ammonium chlorides wherein three of the four organic radicals bonded to the quaternary ammonium nitrogen are methyl, methyl and oleyl.

(3) Additionally, it is noted for completeness of the record that specification page 10, paragraph 0045 provides written descriptive support for the above amendment to claims 9-20.

#### Prior Art, State of the Art, and Patentability Determination

Sembo et al. (US 6,200,973) disclose the combination of dinotefuran + pyriproxyfen, wherein the liquid carrier may include a variety of solvents (claim 1; column 3, line 65 to column 4, line 13). There is no teaching or suggestion of water + ethyl lactate + quaternary ammonium salt.

Sembo et al. (US 6,479,542) disclose a solvent or solvent system for dinotefuran, wherein N-methyl-2-pyrrolidone is used in major amounts (see claim 1; column 1, line 44 to column 2, line 16). There is no teaching of suggestion of water + ethyl lactate + quaternary ammonium salt.

Cottrell et al. (US 6,588,374) disclose a solvent or solvent system for insecticidal (tetrahydro-3-furanyl) methylamine derivatives, wherein water + ethyl lactate + ethanol is one of the preferred solvent mixtures (column 5, lines 52-60). There is no disclosure as to a quaternary ammonium salt solvent component. Cottrell et al. (US 6,867,223) disclose formulations of dinotefuran + pyriproxyfen, but fail to disclose ethyl lactate or quaternary ammonium salt.

Applicant discloses that, because dinotefuran is hydrophilic and pyriproxyfen (IGR) is lipophilic, a solvent system for one component does not work well for the other component (paragraphs 0049 and 0064).

Clearly, the state of the art is such that there is a need for a solvent system that effectively solubilizes both the insecticidal (tetrahydro-3-furanyl) methylamine derivatives such as dinotefuran and an IGR such as pyriproxyfen.

In the context of such state of the art, applicant discloses improved stability of a solvent system that contains water + ethyl lactate + quaternary ammonium salt. In Specification Example 3, Table 1, addition of a quaternary ammonium salt provided stability to a formulation of a highly concentrated dinotefuran composition, which also

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contained pyriproxyfen, water, ethyl lactate and ethanol. The stability was demonstrated under the demanding conditions of 0° F during a 1 month period (see pages 17-18). Table 2 on specification pages 19-24 provides additional test examples.

Therefore, the claimed invention as a *whole* is deemed to be patentable over the prior art, because the addition of a quaternary ammonium salt component has been shown to provide unexpected or unobvious advantages.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Applicant is advised that the "Not Yet Published" 10/242,551, which was cited on the PTO-1449 of 3/1/2004 was crossed out by the Examiner and the patent that issued from that application, U.S. Patent No. 6,867,223 is cited on the attached PTO-892. US 2005/0009880 is cited on the same PTO-892 to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to JOHN PAK whose telephone number is (571)272-0620. The Examiner can normally be reached on Monday to Friday from 8 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's SPE, Gary Kunz, can be reached on (571)272-0887.

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The fax phone number for the organization where this application or proceeding is assigned is **(571)273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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